

## Abstract

A liquid crystal display device and a driving method thereof that are adaptive for detecting a presence and a frequency range of an input signal applied to the liquid crystal display. In the device, a timing controller is provided with a signal presence determiner for detecting an application of an input signal from an interface. The signal presence determiner is provided with an oscillator for generating a reference clock having the same frequency as a horizontal synchronizing signal and a pre-synchronizing signal having the same frequency as a vertical synchronizing signal, a period detector for comparing a data enable signal from the exterior thereof with the reference clock to output a period of the input signal with the aid of a detection reference signal and the pre-synchronizing signal, a period comparator for comparing a period range between a desired maximum value and a desired minimum value of the input signal, and signal presence/absence comparing means for determining a presence/absence of the input signal in response to a pulse number of the input signal detected within a period range between the maximum value and the minimum value during an application interval of the detection reference signal.

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